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10/062,660	02/05/2002	Yukihiro Noguchi	57810-030	4679

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McDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER	
NGUYEN, KEVIN M	

ART UNIT	PAPER NUMBER
2674	7

DATE MAILED: 06/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/062,660	NOGUCHI, YUKIHIRO	
	Examiner	Art Unit	
	Kevin M. Nguyen	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04/16/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed on 04/16/2004 are entered. The rejections of claims 1-15 are maintained.

Information Disclosure Statement

2. The information disclosure statement (IDS) filed 04/16/2004 which has been placed in the application file, the information referred to therein has been considered as to the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, 7, 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al (newly translation of IDS filed on 04/16/2004, JP 05-181154).

4. As to claim 1, Fujiwara et al teach a liquid crystal panel comprising

[recited in lines 2-8 of claim 1]

The conventional structure of liquid crystal panel comprising scanning electrode of a liquid crystal panel 901 are connected to a scanning electrode driving circuit 902 through a connector 904 and signal electrodes of the liquid crystal panel 901 are connected to a signal electrode driving circuit 903 (fig. 9, page 5, lines 14-18).

[recited in lines 9-10 of claim 1]

Referring to Fig. 2a and 2b, second embodiment, first end of the scanning electrodes r201-r206 are connected to scanning driving circuit joint pr201-pr206 for connecting the scanning electrodes and a driving circuit therefore with each other, while first ends of the signal electrodes c201-c206 are connected to respective signal driving circuit joint pc 201-pc206 through drawing wires. The signal driving circuit joints pc 201-pc206 are arranged on the same edge of a liquid crystal part as the scanning driving circuit joint pr201-pr206 (page 9, lines 8-25).

The length of each wire from said signal electrode to said signal driving circuit joint is larger than that of each wire from said scanning electrode to said scanning driving circuit joint (page 3, lines 10-13).

However, second embodiment does not teach said signal line driving circuit and said scanning line driving circuit are arranged on the same peripheral side of said display area in a cascaded manner.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to provide X and Y driver circuits (902, 903) disclosed by fig. 9 for connecting to each joint pr201-pr206, pc 201-206 disclosed in second embodiment of the LCD system of Fujiwara et al to meet the claimed limitation recited in lines 9-10 of claim 1 because this would provide a liquid crystal panel and a driving method rendering a display part of a display easy to constitute and providing the display part with excellent visibility (page 6, lines 15-18).

As to claim 2, Fujiwara et al teach a signal driver and a scanning driver (not shown in the drawing) coupling the signal driving circuit connection parts pc1-pc6 and

the scanning driving circuit connection part pr1-pr6 are arranged on the same peripheral side of said display area in a cascaded manner (abstract).

It would have been an obvious matter of design choice to relocate said scanning line driving circuit is arranged outward beyond said signal line driving circuit as taught by Fujiwara et al, since such a modification would have involved a mere change in relocate of a component because this would provide a large-sized display panel. Relocation is generally recognized as being within the level of ordinary skill in the art. In addition, the relocation of a well-known element is normally not directed toward patentable subject matter, *In re Japikse*, 86 USPQ 70 (CCPA 1950).

As to claims 7, 11, 12, Fujiwara et al review a conventional display area (a liquid crystal panel 901), a signal line driving circuit 903, and a scanning line driving circuit 902 (fig. 10, page 5, lines 14-21).

5. Claims 3, 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al in view of Applicant Admitted Prior Art (AAPA).

As to claim 3, Fujiwara et al teach all of the claimed limitations of claim 1, except for a plurality of shift registers, a plurality of buffers and a plurality of analog switches. However, AAPA reviews a conventional of the column driver comprising a plurality of shift registers 25, a plurality of buffers 26 and a plurality of analog switches 27 arranged in a cascaded manner (figure 8, page 3, lines 16-22). It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide the plurality of shift registers, the plurality of buffers and the plurality of analog switches are known

reviewed by AAPA for Fujiwara et al's column driver circuit because this would improve the large-sized liquid crystal display panel.

As to claims 5 and 6, Fujiwara et al teach a wire (scanning electrodes r1-r6) and a scanning line driving circuit connection part pr1-pr6 (figure 3, and abstract). AAPA reviews shift registers, buffers and analog switches arranged adjacently thereto in a cascaded manner (figure 8, page 3, lines 16-22). It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide the plurality of shift registers, the plurality of buffers and the plurality of analog switches arranged adjacently thereto in a cascaded manner are known reviewed by AAPA for Fujiwara et al's column driver circuit because this would improve the a large-sized liquid crystal display panel.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al in view of Hanari (US 6,437,775).

As to claim 4, Fujiwara et al teach all of the claimed limitations of claim 1, except for a first video signal line connected to said analog switches of odd stages, and a second video signal line connected to said analog switches of even stages. However, Hanari teaches a related liquid crystal display device which includes a first video signal line connected to said analog switches (8a, 8b) of odd stages, and a second video signal line connected to said analog switches (9a, 9b) of even stages (column 5, lines 30-40).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide a first video signal line connected to said analog switches of

odd stages, and a second video signal line connected to said analog switches of even stages taught by Hanari for Fujiwara et al's driver circuit because this would improve the quality of the image being displayed, while removing a display defect in a specific pattern (column 6, lines 34-35 of Hanari).

7. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al in view of Hong et al (US 6,674,495).

As to claims 8, 9, Fujiwara et al teach all of claimed limitations of claim 1, except for a plurality of display panels. However, Hong et al teach a plurality of panel areas (110, 120, 130, 140, 150, 160) each including display area (111, 121, 131, 141, 151, 161) (figure 1, column 6, line 66 through column 7, line 2); said plurality of display panels are connected with each other at least on two sides of each said display panel other than the side provided with said column driver and row driver.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Fujiwara's display area including display area (111, 121, 131, 141, 151, 161), in view of the teaching in the Hong's reference because this would increase an aperture ratio of the thin film transistor panels of LCD to improve a brightness of LCD (column 1, lines 35-37 of Hong et al).

As to claim 10, Hong et al teach six panel areas (110, 120, 130, 140, 150, 160) (figure 1, column 6, lines 66-67).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al in view of Udo et al (US 6,304,241).

As to claim 13, Fujiwara et al teach all of the claimed limitations of claim 1, except for electroluminescence display. However, Udo et al teach electroluminescence panel (column 27, lines 15-16).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide the electroluminescence panel taught by Udo for Fujiwara's liquid crystal display panel because the present invention may be embodied in a display device equipped with electroluminescence panel (column 27, lines 13-16 of Udo et al).

9. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al and Udo et al as applied to claims 1 and 13 above, and further in view of Ting (US 6,486,606).

As to claim 14, Fujiwara et al and Udo et al teach all of the claimed limitations of claim 1 and 13, except for a current supply line. However, Ting reviews a current source V_{supply} (figure 1, column 1, line 52).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide the current source V_{supply} reviewed by Ting for Udo et al's electroluminescence panel because this would supply a current to drive an organic light-emitting diode (column 1, lines 52-53 of Ting).

As to claim 15, Fujiwara et al and Udo et al teach all of the claimed limitations of claim 1 and 13, except for a switching transistor, a capacitor, an EL element and a driving transistor. However, Ting reviews at least one pixel comprising a switching transistor (T1), a capacitor (C), an EL element (D) and a driving transistor (T2) (figure 1, column 1, lines 50-54).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide the switching transistor, the capacitor, the EL element and the driving transistor reviewed by Ting for Udo et al's electroluminescence panel because this would drive and operate the electroluminescence panel.

Response to Arguments

10. Applicant's arguments filed 4/16/2004 have been fully considered but they are not persuasive.

In response to applicant's argument that claim 1 recites "said signal line driving circuit and said scanning line driving circuit are arranged on the same peripheral side of said display area in a cascaded manner."

This argument is not persuasive because Fujiwara et al teaches the conventional structure of liquid crystal panel comprising scanning electrode of a liquid crystal panel 901 are connected to a scanning electrode driving circuit 902 through a connector 904 and signal electrodes of the liquid crystal panel 901 are connected to a signal electrode driving circuit 903 (fig. 9, page 5, lines 14-18). Referring to Fig. 2a and 2b, second embodiment, first end of the scanning electrodes r201-r206 are connected to scanning driving circuit joint pr201-pr206 for connecting the scanning electrodes and a driving circuit therefore with each other, while first ends of the signal electrodes c201-c206 are connected to respective signal driving circuit joint pc 201-pc206 through drawing wires. The signal driving circuit joints pc 201-pc206 are arranged on the same edge of a liquid crystal part as the scanning driving circuit joint pr201-pr206 (page 9, lines 8-25). The length of each wire from said signal electrode to said signal driving circuit joint is larger

than that of each wire from said scanning electrode to said scanning driving circuit joint (page 3, lines 10-13).

These arguments are not persuasive because it would have been obvious to a person of ordinary skill in the art at the time of the invention to provide X and Y driver circuits (902, 903) disclosed by fig. 9 for coupling to each joint pr201-pr206, pc 201-206 disclosed in second embodiment of the LCD system of Fujiwara et al to meet the claimed limitation recited in lines 9-10 of claim 1 because this would provide a liquid crystal panel and a driving method rendering a display part of a display easy to constitute and providing the display part with excellent visibility (page 6, lines 15-18).

For these reasons, the rejections based on Fujiwara et al have been maintained.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kevin M. Nguyen** whose telephone number is **703-305-6209**. The examiner can normally be reached on MON-THU from 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reached on **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Kevin M. Nguyen
Patent Examiner
Art Unit 2674

KN
June 10, 2004

XIAO WU
PRIMARY EXAMINER